

became president, the full title of registrar and secretary fell to Mr. Pilcher, to whose zeal and energy the Institute owes not a little of its development and usefulness during the last thirty-five years.

Prior to Thomson's elevation to the chair, two other presidents had succeeded Tilden, namely, Dr. W. J. Russell (of St. Bartholomew's Hospital) and Sir Thomas Stevenson, the distinguished toxicologist. The presidency of the latter is chiefly memorable for the institution of the special examination in the analysis of food, drugs and water, and in microscopy, pharmacology and therapeutics, designed to meet the requirements of the Local Government Board (now the Ministry of Health), in considering the qualifications of candidates for appointment as public analysts, and the special diploma of the Institute has ever since been accepted by the Ministry as evidence of competency in this special work.

Succeeding presidents of the Institute were David Howard, Prof. Percy Frankland, Sir George Beilby and Prof. Raphael Meldola. It was during the term of office of the latter that, the lease of the Bloomsbury Square house having expired, the Institute migrated into the present commodious premises which, with the help of a generously supported building fund, it had been able to erect in Russell Square.

Meldola was succeeded in the chair by Sir James Dobbie (the then Government Chemist), whose influence helped to effect a long-contemplated and momentous change in the regulations for admission to the associateship. Hitherto all candidates had to be examined by the Institute itself, but it was then decided that the attainment of high chemical honours at the degree examination of any recognised university should be accepted as sufficient qualification. Promotion to the fellowship, however, was still, as now, to be awarded only after subsequent experience and the passing of a final examination in a special branch of chemistry,

pure or applied, unless in exceptional cases in which the carrying out of advanced research, or the rendering of other signal service to chemistry, might be regarded by the Council as justifying exemption.

Later names on the list of past presidents are those of Sir Herbert Jackson, A. Chaston Chapman, Prof. G. G. Henderson, Prof. A. Smithells and Sir Christopher Clayton, while the now acting president is Prof. Jocelyn F. Thorpe (of the Imperial College) who has recently had the satisfaction of announcing that in celebration of its Charter Jubilee the King has been graciously pleased to accord to the Institute His Royal Patronage.

To attempt here any adequate indication of the present multifarious activities of the Institute would be futile; but it should be recorded that it has in Great Britain and in Ireland fourteen local sections, and at least five in the Dominions, all of which hold local meetings for the delivery of lectures and the discussion of papers, while in London advanced 'Memorial' lectures are given from time to time by eminent masters of special branches of science or of technology. The Council is always ready to lend advisory aid in administrative or other matters of public importance in which chemical considerations are involved, and sends representatives or delegates to many external conferences or standing committees. Not the least of the episodes in its history calling for retrospective satisfaction is the very multifarious help, civil as well as military, which, collectively as well as by individual effort, the Institute was able to render to the country during the War.

It should be added that the Institute issues a quarterly journal which records the proceedings of the Council and the activities of the various local sections and other items of domestic interest; and, in addition, often includes editorial articles which are not only informative but also healthily stimulative.

Obituary

Dr. C. E. St. John

CHARLES EDWARD ST. JOHN, who died on April 26 of pneumonia after a short illness, was one of the most lovable of men. Born on March 15, 1857, at Allen, Michigan, he graduated at the Michigan State University and studied afterwards at Harvard and Berlin. He was an instructor in physics at the Michigan State University and in 1897 became assistant professor, and later professor, of physics and astronomy at Oberlin College, and later dean of the College of Arts and Sciences. In the midst of

these busy duties he found time in the summer to work at the Yerkes Observatory with Nichols on the measurement of radiation from the stars. At forty-nine years of age he joined Hale at the Mount Wilson Observatory and remained on the staff there until 1929 when he retired. He was made a research associate in 1930 and continued actively working, despite failing health, until the end, his last piece of work (left unfinished) being a general discussion of the problem of solar rotation.

It is as an enthusiastic and most successful

research worker in the general field of solar spectroscopy that St. John will be remembered. Among the problems that he worked at we may mention the gravitational displacement to the red of lines in the solar spectrum in accordance with the general theory of relativity. Closely allied with this was the study of systematic convection currents in the solar atmosphere invoked by St. John to account for anomalies in the observed Einstein effect. A full discussion of the Evershed effect in different levels in the sun's atmosphere in the immediate neighbourhood of sunspots was one of St. John's methods of analysing the layers in which the various Fraunhofer lines originated.

St. John's wide and exact knowledge of the solar spectrum in all its variants made of him a natural leader for the team recently engaged in the revision of Rowland's Preliminary Table of Solar Wave-Lengths, for St. John had been elected in 1922 president of the Commission on Standard Wave-Lengths and Tables of Solar Spectra of the International Astronomical Union. Later, when several of the solar commissions were combined into one—the Commission on Solar Physics—St. John was appointed its president, and he only gave up his active work for the Union a few months ago on account of failing health. He will be greatly missed at the coming meeting of the Union. St. John was also a member of the Commission on Solar and Terrestrial Relationships working under the International Council of Scientific Unions. He was elected an associate of the Royal Astronomical Society in 1917.

Mr. J. T. Cunningham

OF Joseph Thomas Cunningham, whose death occurred suddenly in London on June 5, at seventy-six years of age, it can with truth be said that he, more perhaps than most, through fair weather and through foul, preserved his youthful keenness and eagerness for biological research to the very end of a long life.

Born in London and educated at St. Olave's Grammar School, Southwark, Cunningham went up to Oxford, where his career was brilliant. He was Brackenbury science scholar of Balliol from 1878–81 and obtained first classes in mathematical moderations and in natural science. In zoology he was a pupil of Rolleston, who died in 1881. He was elected to a fellowship at University College, Oxford, in 1882, which he held until 1889.

After working for a time with Ray Lankester, Cunningham spent the winter of 1882–83 at the Naples Zoological Station. His first publication (*Q.J.M.S.*, Jan. 1882) was a review of recent work on karyokinesis. In 1883 he contributed to *NATURE* a description of the Naples Station, the occasion for which, he says, was the new Department of Comparative Physiology about to be opened there. In July of the same year there appeared two papers on his first researches, dealing with the nephridia of *Patella* and *Aplysia*.

Cunningham's career as a marine biologist commenced when, in 1884, after having been for a short

time assistant to the professor of natural history at Edinburgh, he was appointed director of John Murray's floating marine laboratory (the *Ark*) at Granton, with Hugh Robert Mill as his colleague for hydrographical research. From 1887 until 1897 he was naturalist to the Marine Biological Association of the United Kingdom, being stationed at Plymouth until 1895 and then at Grimsby. He published during this time his monograph on the sole, which remains a standard work, and also his book on "Marketable Marine Fishes", in which much of his own research on the eggs and larvæ of fishes was summarised in convenient form. After serving for a period under the Cornwall County Council as lecturer on fishery subjects, he moved in 1902 to London, where he was engaged in teaching zoology, being from 1917 until 1926 lecturer at East London (Queen Mary) College.

Cunningham was a regular attendant at zoological meetings and frequently took part in the discussions. Although in later years theoretical aspects of biology were his chief interest, he seldom failed to direct attention to significant facts not generally known to his audience which had either come under his own observation or, although recorded, had been forgotten. When the present writer first knew him in 1892 his 'Lamarckian' outlook was already well established and he was always proud of the fact that he had received much help and encouragement in his study of the subject from Herbert Spencer. His own views were summarised in his book "Modern Biology: a Review of the Principal Phenomena of Animal Life in Relation to Modern Concepts and Theories" (1928), and his principal original contributions in "Hormones and Heredity" (1922), and "Sexual Dimorphism in the Animal Kingdom" (1900).

Cunningham was much interested in the experimental side of Mendelian work, as well as in experimental physiology, and always had in hand experiments of interest of his own. So recently as 1930, when more than seventy, he went to Marajo, in the mouth of the Amazon, to study the function of the external filaments which develop during the breeding season on the pelvic limbs of the male lepidosiren; there he satisfied himself that the observations he was able to make confirmed a view he had previously expressed, that these filaments emitted oxygen to the eggs and larvæ, which develop and grow in the almost oxygen-destitute water in a burrow in the swamp.

E. J. A.

Mr. H. W. Clinton-Baker

THE death on April 19, at the age of seventy years, after a few days' illness, of Mr. H. W. Clinton-Baker, the Squire of Bayfordbury, removes a well-known Hertfordshire arboriculturist. Mr. Clinton-Baker will be best remembered for his keen interest in conifers, which he had made the hobby of a lifetime. He became the owner of the Bayfordbury estates in 1903 on the death of his father.

Mr. Baker's love for trees was no doubt inherited from his grandfather, Mr. William Robert Baker, who commenced the famous Bayfordbury pinetum in 1837. The Bayfordbury cedars, planted in 1765 by